IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE
THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPELLANT: Fernando MAZERIS CONF. NO.: 1896

SERIAL NO.:10/581,924 GROUP: 3643

FILED: June 7, 2006 EXAMINER: Son Nguyen

TITLE: ARRANGEMENT AND METHOD FOR FEEDING ANIMALS

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS:

This is an appeal of the Examiner's final rejection of each of pending claims 1-4, 6-24, and 26-54 of the present application.

I. REAL PARTY IN INTEREST

The real party in interest is DeLaval Holding AB as evidence by the Assignment recorded at Reel 018002, Frame 0462.

II. RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board of Patent Appeals and Interferences' decision in this Appeal.

III. STATUS OF CLAIMS

Claims 1-4 and 6-54 are pending in the present application, of which claim 25 is withdrawn as being directed to a non-elected invention. The Examiner rejected each of pending claims 1-4, 6-24 and 26-54 in the Official Action mailed April 28, 2011 (the "Official Action"). Claim 5 has been previously cancelled.

The claims stand rejected as follows:

Claims 1-3, 6, 7, 10, 11, 13, 14, 17, 20, 21, 23, 24, 26-30, 34, 37-40, 43, 48, and 50-54 stand finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2002/0120402 to Burghardi et al. in view of U.S. Patent Publication No. 2003/0188689 to Pratt.

Claims 4, 8, 9, 12, 15, 16, 35, 36, and 44-47 stand finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi as modified by Pratt as applied to claims 1, and 26, and further in view of U.S. Patent Publication No. 2005/0000457 to Beck.

Claims 18, 19, 31-33, 41, and 42 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi as modified by Pratt as applied to claims 1, 2, and 26, and further in view of U.S. Patent No. 7,308,866 to Birk.

Claim 22 stands finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi as

modified by Pratt as applied to claim 1, and further in view of U.S. Patent Publication No. 2003/0230245 to Cheung.

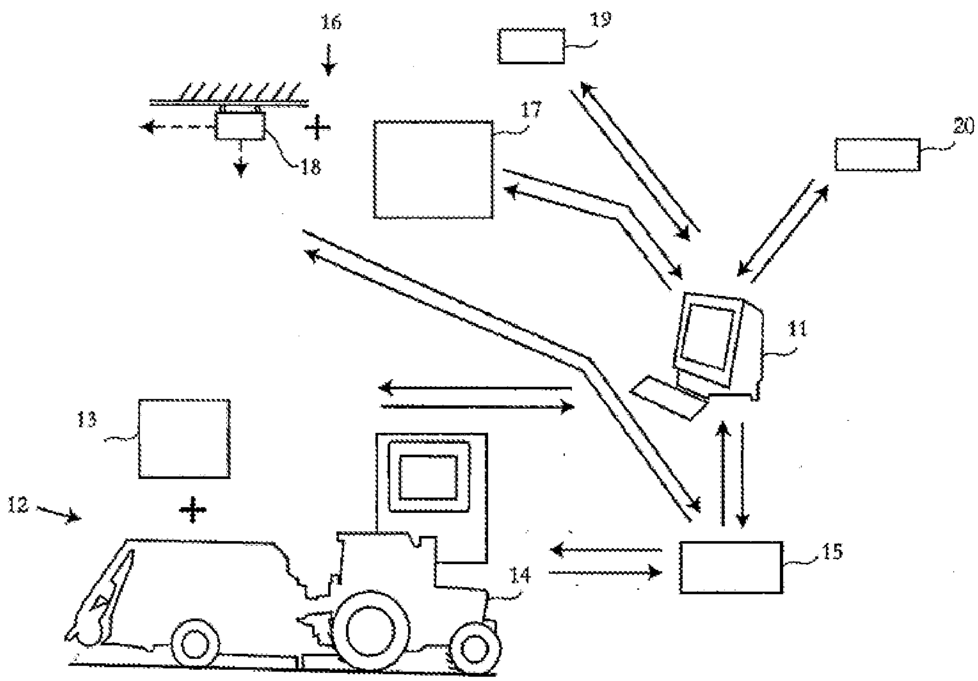
Claim 49 stands finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi as modified by Pratt as applied to claim 1, and further in view of U.S. Patent No. 6,901,369 to Cureton et al.

IV. STATUS OF AMENDMENTS

Prior to the Examiner's final rejection mailed on April 28, 2011 of each of pending claims 1-4, 6-24, and 26-54 and the Notice of Appeal filed on July 28, 2011, the amendments submitted in the Amendment under 37 C.F.R. § 1.111 filed on November 2, 2010, were entered and examined by the Examiner. No further amendments were made thereafter, including in response to the April 28, 2011 Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claims 1 and 26 are independent. Claim 1 is a "feeding system" claim and claim 26 is a "use of a feeding system" claim. The application's sole figure is reproduced below.



The invention generally relates to a feeding system and use of such a system for feeding animals on a farm[1]. The specification teaches that on a farm the composition of feed for feeding the animals of the farm varies greatly from day to day, and even from time to time during the day, and that these variations naturally affect the amounts and/or balance of various nutrients given to the animals in an adverse manner when feeding with fixed rations, and consequently also the milk production may be deteriorated.[2] Further, the

[1] Specification page 1, lines 4-5.
[2] Specification page 3, lines 8-15.

composition of feed may vary from spot to spot within a feed storage arrangement (the farm's fodder silo), depending on parameters such as, e.g., temperature, humidity, and oxygen supply of the immediate environment of the feed at a particular spot. Hence, different portions of the feed may have different compositions.[3]

By the recited system and use thereof, the invention reduces animal feeding costs and increases the quantity and/or quality in milk production of the animals on the farm[4] by providing a control device[5] that controls both feed analysis and feed dispensing by i) controlling an on-farm analyzer that, at least once a day, in situ measures constituent(s) of the farm's solid feed that the will be feed to the animals of the farm[6], and also ii) controlling a feeding device to feed the farm's animals based on the repeatedly performed constituent(s) measurements[7]. Accordingly, the invention is an "on the farm" system providing controlled in situ feed analysis and controlled dispensing.

Independent claim 1 recites a feeding system for feeding animals on a farm, including an analyzer device (on-farm analyzer device 13, 17) for measuring in real time or near real time an amount of at least one constituent of

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[3] Specification page 3, lines 17-21.
[4] Specification page 2, lines 25-26.
[5] Specification page 5, lines 6-19; page 7, lines 6-15; cow managing device 11
[6] Specification page 7, lines 19-22; on-farm analyzer device 13.
[7] Specification page 9, lines 17-30; feed management module 15, arrangement 12, feeding vehicle 14.

solid feed <u>to be fed to the animals on the farm</u>, a feeding device (feed vehicle 14, feeding device 18) for feeding the animals on the farm, and a control device (cow-managing device 11, feed management module 15) controlling the analyzer device and the feeding device. The control device is configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, wherein the amount of the constituent may include any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content.[8] The control device is further configured to control the feeding device to feed the animals repeatedly and at each instance based on the previous repeatedly performed measurements.[9]

The specification (spanning pages 8-9) teaches that the on-farm analyzer device is preferably an apparatus designed for the field, and by having the analyzer device on the farm for in-situ measurements, real time or near real time values of the composition of the solid feed can be provided. In this way, the invention utilizes real time measurements of feed constituents of the feed actually on the farm that will be feed to the animals, thereby achieving the object to provide an arrangement that more precisely reduces feeding costs and increases the quantity and/or quality in milk production that is specific to the farm/farm animals in

[8] Specification page 7, lines 6-26.
[9] Specification page 9, lines 10-30.

question. Key to the invention is controlling both real-time measuring of on-the-farm feed constituents and the feeding of the particular animals on the farm with the measured feed, based on the real time measurements[10].

Independent claim 26 is directed to the use of a feeding system including an analyzer device 13, 17 and a feeding device 14, 18 for feeding animals. The analyzer device may be, performed by a control device 11, for measuring in real time or near real time, repeatedly, and at least once a day the amount of at least one constituent of solid feed to be fed to the animals, and the feeding device 14, 18, performed by the control device 11, may be used for feeding the animals repeatedly and at each instance based on the previous repeatedly performed measurements,[11] wherein the amount of the constituent may include any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content.[12]

The “use claim” requires a control device that both controls i) the analyzer device for (repeatedly and at least daily) making real time or near real time measurement constituents of the solid feed to be feed to “said animals”, and ii) the feeding device that feeds “said animals” the solid feed that was measured, where the feeding is based on the real time measurements.

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[10] Specification page 2, lines 23-26.
[11] Specification page 9, lines 10-30.
[12] Specification page 7, lines 6-26.

In this way, the invention utilizes real time measurements of feed constituents of the feed that will actually be feed to the animals and then controls the feeding of that feed to the animals, thereby achieving the object to provide an arrangement that more precisely reduces feeding costs and increases the quantity and/or quality in milk production. Again, key to the invention is controlling both the real-time measuring of on-the-farm feed constituents and the feeding of the particular animals on the farm of the measured feed, based on the real time measurements.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellant seeks the Board's review of the rejection of:

a) claims 1-3, 6, 7, 10, 11, 13, 14, 17, 20, 21, 23, 24, 26-30, 34, 37-40, 43, 48, and 50-54 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2002/0120402 to Burghardi et al. in view of U.S. Patent Publication No. 2003/0188689 to Pratt;

b) claims 4, 8, 9, 12, 15, 16, 35, 36, and 44-47 under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi in view of Pratt as applied to claims 1, and 26, and further in view of U.S. Patent Publication No. 2005/0000457 to Beck;

c) claims 18, 19, 31-33, 41, and 42 under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi in view of Pratt as applied to claims 1, 2, and 26, and further in view of U.S. Patent No. 7,308,866 to Birk;

d) claim 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi in view of Pratt as applied to claim 1, and further in view of U.S. Patent Publication No. 2003/0230245 to Cheung; and

e) claim 49 under 35 U.S.C. §103(a) as allegedly being unpatentable over Burghardi in view of Pratt as applied to claim 1, and further in view of U.S. Patent No. 6,901,369 to Cureton et al.

VII. ARGUMENTS

BRIEF DISCUSSION OF PRIOR ART

Burghardi

Burghardi discloses a system for determining customized feed for different types of animals such as cattle, swine, poultry, fish, crustaceans and in particular, determines a feed mix based upon data relating to information such as animal characteristics, available ingredients, speed of product production, and cost of production (Burghardi [0001]).

The Burghardi system stores animal data representative of the characteristics of the animal, feed data representative of the feed ingredients located at one or more locations, and evaluation data representative of at least one evaluation criteria. The system further generates profile data representative of a nutrient profile for the animals based upon the animal data. The system generates ration data based upon the profile data, the feed data and the evaluation data [0007].

Thus, although Burghardi teaches formulating custom feed for different types of animals, taking into account a nutrient profile of different types of feeds, Burghardi does not disclose i) an analyzer device making repeated, at least daily, real-time measurements of the solid feed that will be feed to specific animals, or ii) an analyzer device measuring in real time an amount of at least one constituent

of solid feed to be fed to animals of a specific farm. Indeed, Appellant has not found that Burghardi discloses how the nutrient information for the available feed ingredients are determined. That is to say, Appellant has not found that Burghardi discloses any analyzer device measuring constituents of solid feed.

Burghardi is also silent about controlling a feeding device for feeding animals of a specific farm, based on previous repeatedly performed measurements.

Still further, Burghardi is silent about a control device that controls both the analyzer device and the feeding device.

Pratt

Pratt discloses managing cattle in a feedlot for production of beef by measuring, sorting and tracking animals for optimum efficiency and value [0003]. Pratt discloses recording, measuring, sorting and tracking individual animals for receiving, recording, and storing data by individual animal, and for calculating performance, marketing, sorting, costs and other information from such data by individual animal [0043] in order to produce the optimum economic return to the feedlot and producer for each animal in the feedlot [0030]. The question in Pratt is determining an optimum marketing or shipping date for each animal, defined as an optimum end date (OED) [0127].

While the cattle are at the feedlot, the Pratt determines how much feed should be fed to the cattle. Cattle arriving at the feedlot are directed into receiving or holding pens 186, where they are held just prior to initial processing [0147]. When ready for processing, the cattle from the holding pens 186 are directed to the one-way single-file chute 22 where they are one-by-one led through the various chute stations, sequentially, including the get ready station 34, the video image measuring station 36, the weighing station 38 and the ultrasound backfat measuring station 40. During this first set of processing, the measurement is transmitted for recording, collection and storage [0147]. Feed calculations (an amount of feed to be fed in a given period) are made based on the first set of measurements at the single-file chute [0153]. Periodically, while in the feedlot, the animal is weighted [0131] and the animal's OED updated, the feed proration formula may be updated [0153]. The animal may be assessed daily [0138].

Ultimately, Pratt discloses how to determine a feed proration for each animal taking into account optimum marketing or shipping date of each animal.

Pratt, however, does not disclose actually analyzing the feed that will be fed to the cattle.

Pratt does not disclose an analyzer device for at least daily real-time measuring the amount of the constituent of the solid feed, or of any <u>analyzer device</u> for measuring in

real time an amount of at least one constituent of solid feed to be fed to animals of a specific farm.

Beck

Beck discloses ensiled feed [0003] and use of near infrared reflectance spectroscopy (NIRS) [0008], [0039] for analyzing feed.

Birk

Birk discloses a feeding system comprising a feed wagon capable of dropping feed into a feeding table, manger, or similar, while moving along the feeding table to distribute the feed well on the feeding table.

Cheung

Cheung relates to biological compositions that can reduce the production of odorous waste products by animals, which biological compositions can be added to animal feed to reduce the odor of waste products prior to the shedding of the waste products by the animal [0012].

Cureton

Cureton discloses camera system 99 mounted on a remotely-controlled feed delivery vehicle, allowing a remote operator to interact with a VR model of the remotely controlled feedlot vehicle (FIGS. 2B2, 2C1, 2D1 and 2E1).

It does not appear, however, that the camera system 99 has "capabilities for measuring the actual feed consumption in connection with each of the feedings".

Rather, Cureton discloses a uniform feed dispensing subsystem aboard the feed delivery vehicle with a scale 107 to measure the actual amount of feed loaded onto an assigned feed delivery vehicle, where by measuring the weight of the feed within storage compartment 108 and recording these measurements in memory of the on-board computer system, the computer system computes the actual amount of feed ration either (i) supplied to the feed load storage compartment during the feed loading process at the feedmill, or (ii) dispensed therefrom into the feedbunk of any pen in the feedlot.

First Ground Of Rejection On Appeal

The first ground of rejection under appeal is whether claims 1-3, 6, 7, 10, 11, 13, 14, 17, 20, 21, 23, 24, 26-30, 34, 37-40, 43, 48, and 50-54 are obvious under 35 U.S.C. §103(a) over Burghardi in view of Pratt.

Appellant respectfully submits that the claims are non-obvious.

Claim 1

Applied Art Fails to Teach/Suggest All Claim Limitations

Appellant respectfully submits that the Burghardi and the Pratt references, individually or in combination, fail to disclose or suggest a feeding system for feeding animals on a farm, the system providing a control device to i) control an analyzer device to make daily, real-time measurements of constituents in solid feed to be fed to the animals of that particular farm, and ii) control a feeding device to feed the animals, of the particular farm, based on such performed measurements.

First, there is no disclosure of:

> *an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals, wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content.*

Second, there is no disclosure of:

the analyzer device [being controlled] to repeatedly measure the amount of the constituent of the solid feed at least once a day.

As to the first point, in the Office Action, the rejection is based on an assertion that "For claim 1, Burghardi et al. teach a feeding system for feeding animals on a farm, comprising: an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals [0019][0020][0021]."[13]

Appellant respectfully disagrees because Burghardi is completely silent, based on paragraphs [0019], [0020], and [0021] and/or any portion of Burghardi, of teaching or suggesting that the analyzer device <u>measures in real time or near real time the amount of at least one constituent of solid feed to be fed to said animals [of said farm]</u>.

Claim 1 clearly requires that the analyzer device measure feed that is going to be fed to the animals on the farm having the claimed feeding system, the measurements being in real time/near real time. Any analyzer that does not measure feed that is going to be fed to the animals on the farm having the claimed feeding system, does not satisfy this "analyzer device" recitation. Any analyzer that does

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[13] Final Office Action, page 2, paragraph 3.

not do real time/need real time measurements, does not satisfy this “analyzer device” recitation.

As pointed out above, Burghardi teaches formulating custom feed for different types of animals, taking into account a nutrient profile of different types of feeds; however, Burghardi does not disclose i) an analyzer device making repeated, at least daily, real-time measurements of the solid feed that will be feed to specific animals, or ii) an analyzer device measuring in real time an amount of at least one constituent of solid feed to be fed to animals of a specific farm.

Although Burghardi discusses considering nutritional information, Appellant has not found that Burghardi discloses how the nutrient information for the available feed ingredients are determined. Therefore, Appellant has not found that Burghardi discloses any analyzer device measuring the recited constituents of solid feed.

Rather, Burghardi relies on standard nutritional values for available feed ingredients. This approach is completely inconsistent with the present invention where the inventors have overcome the problem that on a farm the composition of feed for feeding the animals of the farm varies greatly from day to day, and even from time to time during the day, and that these variations naturally affect the amounts and/or balance of various nutrients given to the animals in an

adverse manner when feeding with fixed rations, and consequently also the milk.

There is no suggestion in Burghardi of appreciating the problem being solved by the present invention or the solution being claimed.

Indeed, as to the second point noted above, the Examiner acknowledges that Burghardi does not teach the analyzer device [being controlled] to repeatedly measure the amount of the constituent of the solid feed at least once a day.

There would be no reason for Burghardi to control an analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, because Burghardi relies on standard nutritional values for available feed ingredients.

Since Burghardi does not teach the features for which the Examiner has offered Burghardi, the rejection is improper.

Further, Pratt does not cure these defects. In regard to Pratt, as similarly discussed above regarding Burghardi, Pratt also fails to disclose, or suggest, "<u>an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals</u>," as recited in claim 1.

The system of Pratt determines a feed based upon data relating to information such as animal characteristics,

e.g., weight, external dimensions, internal fat or other tissue characteristics of the animal, and does not disclose the recited analyzer device.

The Examiner asserts that Pratt discloses the alleged missing features of the control device "configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, and configured to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements [0131][0138][0153][0023]."[14]

Appellant respectfully disagrees.

Specifically, the control device in Pratt is <u>not</u> designed to measure "the amount of the constituent of the solid feed at least once a day," as recited by claim 1.

Instead, Pratt discloses, upon arrival of a lot of cattle in the feedlot, each animal in the load is measured, processed and electronically identified with a EID tag, and initially sorted into the sorting pens by type (breed), weight, age, or a first estimated optimum end date (OED) or days to finish (DTF) [0128]. From the sorting pens, the animals are moved to feed pens, either by sort or on an *ad hoc* basis, where they are fed for a period of time, such as 45 days or longer. After the 45th day, for example, if the weight or measurement is achieved, the animals would be

[14] Office Action, page 3, first full paragraph.

moved from their feed pens and back through the single-file chute, where the animals would be re-measured. From this measurement and re-measurement data, the performance of each animal would be calculated by the computer, and its performance assessed [0130]. Pratt concerns determining feed proration for each animal, taking into account optimum marketing or shipping date of each animal.

Pratt, however, does not disclose actually analyzing the feed that will be fed to the cattle. Pratt does not disclose an analyzer device for at least daily real-time measuring the amount of the constituent of the solid feed, or of any analyzer device for measuring in real time an amount of at least one constituent of solid feed to be fed to animals of a specific farm.

The Examiner has misread Pratt. The Examiner's assertion that paragraph [0153] of Pratt teaches "measuring the amount of the constituent of the solid feed" is improper. Although paragraph [0153] mentions calculating the "dry matter intake" (DMI) for a given feed period, it is respectfully submitted that the dry matter intake is the total weight of the feed and, not the amount of the constituent of the solid feed.

In fact, paragraph [0153], lines 10-12, states that "[a]s indicated in the formula, the frame score is determined by a formula using both hip height and current

weight." This reiterates that the measurement is based further on the animal's characteristics.

Thus, the Examiner is incorrect. Pratt fails to disclose that "<u>the control device is configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day</u>," as recited in claim 1.

Claim 1 further recites the control device configured to control the feeding device to feed said animals [of the farm] repeatedly and at each instance based on the previous said repeatedly performed measurements.

In the paragraph spanning pages 2-3 of the Official Action, the Examiner acknowledges that Burghardi does not teach this feature of claim 1.

The Examiner asserts that Pratt discloses the missing features of the control device "configured to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements [0131][0138][0153][0023]."[15]

Appellant disagrees.

In claim 1, the phrase "said repeatedly performed measurements" means the measurements of the "analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals", "wherein the amount of said constituent includes

[15] Office Action, page 3, first full paragraph.

any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content”.

Appellant respectfully points out that Pratt does not disclose actually analyzing the feed that will be fed to the cattle; does not disclose daily real-time measuring the amount of the constituent of the solid feed; and does not disclose measuring in real time an amount of at least one constituent of solid feed to be fed to animals of a specific farm. Accordingly, it follows that Pratt cannot disclose a control device configured to control the feeding device to feed said animals repeatedly and at each instance based such repeatedly performed measurements.

In conclusion, since the rejection fails to show that the applied references disclose or suggest each and every element of the rejected claims, Appellant respectfully submits that no *prima facie* case of obviousness has been established with respect to claim 1, and that the rejection is therefore improper. The rejection of the claims depending from claim 1 is also improper.

<u>The Claim 1 Rejection Is Procedurally Improper</u>

Further, in order to establish a *prima facie* case of obviousness, the Examiner must establish that it would have been obvious for one of ordinary skill to have combined the

teachings of the cited documents.[16] One way to establish this would be to show "some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness" and "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does."[17] Furthermore, the Examiner must make "*explicit*" this rationale of "the apparent reason to combine the known elements in the fashion claimed," including a detailed explanation of "the effects of demands known to the design community or present in the marketplace" and "the background knowledge possessed by a person having ordinary skill in the art."[18]

It is respectfully submitted that the Examiner has not met these criteria. For example, the Examiner asserts that:

> [i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to have the control device of Burghardi et al. [to] be configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, and configured to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements as taught by Pratt in order to provide updated data about the animal so as to provide appropriate feed to the animal.[19]

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[16] See *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. at 398, 82 USPQ2d at 1396 (2007).
[17] *Id.*
[18] *Id.*
[19] Final Office Action mailed April 28, 2011, page 3 first full paragraph.

It is respectfully submitted that the above statement is merely conclusory and does not comprise *"some articulated reasoning with some **rational underpinning** to support the legal conclusion of obviousness"*[20] as required by *KSR Int'l*. Namely, the Examiner's statement *"in order to provide updated data about the animal so as to provide appropriate feed to the animal"* is merely a conclusory statement, and is not a rational underpinning to support an obviousness rejection. Therefore, because the Examiner has not provided an explicit analysis as required by *KSR Int'l*, a *prima facie* case of obviousness has not been established.

Moreover, as recently held by the Board of Patent Appeals and Interferences in Ex parte United Technologies Corp., Appeal No. 2009-006732, such statement made herein by the Examiner is merely an assertion that does not amount to a *prima facie* case for obviousness.

In particular, the Examiner has not identified the portions of Pratt being relied upon for the teaching/conclusion i) *to control the analyzer device to measure constituent amounts, and ii) to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements* "as taught by Pratt" iii) *in order to provide updated data about the animal so as to provide appropriate feed to the*

[20] *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

animal. Further, the Examiner does not explain how updated constituent measurements and then controlling the feed to the animals results in "updated information about the animal so as to provide appropriate feed to the animal." The unsupported conclusion falls well short of meeting the initial burden to provide a factual basis to support an obviousness conclusion - see also *In re Warner,* 379 F.2d at 1017.

In view of the above, Appellant respectfully submits that one of ordinary skill in the art would not have combined the teachings of the Burghardi and the Pratt references in the manner used to reject the claims, and that the proposed combination of the Burghardi and the Pratt references, individually or in combination, fails to teach or suggest all of the elements of claim 1. Thus, no *prima facie* case of obviousness has been established. Accordingly, claim 1 is allowable over the Burghardi and the Pratt references.

Claims 2, 3, 6, 7, 10, 11, 13, 14, 17, 20, 21, 23, 24, 26-30, 34, 48, and 50-54, are dependent from claim 1, and therefore, also allowable. Accordingly, Appellant respectfully requests that the rejection under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Claim 2

With respect to dependent claim 2, Appellant respectfully submits that this claim recites that the control device is configured to control said analyzer device to measure the amount of said constitute of said solid feed immediately prior to the feeding of said animals.

The Examiner asserts that Burghardi paragraphs [0018], [0020], [0021], [0024], [0025], and [0032]-[0036] satisfy this feature.

Appellant respectfully disagrees.

These passages concern creating a customized feed involving the processing and manipulating of data relating to the characteristics of the animals. Appellant respectfully asserts that there is no description or discussion of measuring the amount of constituent of the feed immediately prior to feeding the animals.

Claims 52, 53 and 54

Claim 52 depends form claim 1 and recites that the animals, the analyzer device, and the feeding device are colocated. Claim 53 depends from claim 1, and recites "wherein at least the animals, the analyzer device, and the feeding device are in situ". Claim 54 depends from claim 2, and recites "wherein the amount of the at least one constituent of the solid feed is measured and the animals are fed in real time in situ".

The Examiner asserts that Burghardi paragraph [0020] satisfies these recitations.

Appellant respectfully disagrees.

From these claims it is clear that at least the animals, the analyzer device, and the feeding device are in situ. The phrase "are in situ" requires these three elements, i.e., the animals, the analyzer device, and the feeding device, all be on the farm housing and feeding the animals. For claim 52, the animals, the analyzer device, and the feeding device are <u>colocated</u>.

Burghardi paragraph [0020] concerns creating a customized feed, and does not disclose i) that the animals [recited as being on the farm], the analyzer device, and the feeding device are in situ. Since claim 1 requires the animals to be on the farm, it follows that claim 53 would require that the analyzer device and the feed device also be on the farm. Burghardi paragraph [0020] does not disclose this.

Burghardi paragraph [0020] also does not disclose the amount of the at least one constituent of the solid feed being measured and the animals being fed in real time on the farm.

Thus, the Examiner has failed to show that the references teach these claimed features of the invention.

Claim 26

Independent claim 26 is directed to use of a feeding system having an analyzer device and a feeding device for feeding animals, including, *inter alia*, "said analyzer device, performed by a control device, for measuring in real time or near real time, repeatedly, and at least once a day the amount of at least one constituent of solid feed to be fed to said animals, and said feeding device, performed by the control device, being used for feeding said animals repeatedly and at each instance based on the previous said repeatedly performed measurements."

On Official Action page 6, last full paragraph, the Examiner states "For claims 26, 27, the limitations have been explained in the above, thus, please see above."

Appellant respectfully submits that the Burghardi and the Pratt references, individually or in combination, fail to disclose or suggest the recited control device to i) control an analyzer device to make daily, real-time measurements of constituents in solid feed to be fed to the animals of that particular farm, and ii) control a feeding device to feed the animals based on such performed measurements.

First, there is no disclosure of an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said

animals, wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content. Second, there is no disclosure of the analyzer device [being controlled] to repeatedly measure the amount of the constituent of the solid feed at least once a day.

As to the first point, in the Office Action, the rejection is based on an assertion that “For claim 1, Burghardi et al. teach a feeding system for feeding animals on a farm, comprising: an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals [0019][0020][0021].”

Appellant respectfully disagrees because Burghardi is completely silent, based on paragraphs [0019], [0020], and [0021] and/or any portion of Burghardi, of teaching or suggesting that the analyzer device measures in real time or near real time the amount of at least one constituent of solid feed to be fed to said animals.

As pointed out above, although Burghardi teaches formulating custom feed for different types of animals, taking into account a nutrient profile of different types of feeds, Burghardi, however, does not disclose i) an analyzer device making repeated, at least daily, real-time measurements of the solid feed that will be feed to specific animals, or ii) an analyzer device measuring in real time an

amount of at least one constituent of solid feed to be fed to specific animals.

Although Burghardi discusses considering nutritional information, Appellant has not found that Burghardi discloses how the nutrient information for the available feed ingredients are determined. Therefore, Appellant has not found that Burghardi discloses any analyzer device measuring the recited constituents of solid feed.

Burghardi relies on standard nutritional values for available feed ingredients. This approach is completely inconsistent with the present invention where the inventors have overcome the problem that on a farm the composition of feed for feeding the animals of the farm varies greatly from day to day, and even from time to time during the day, and that these variations naturally affect the amounts and/or balance of various nutrients given to the animals in an adverse manner when feeding with fixed rations, and consequently also the milk.

There is no suggestion in Burghardi of appreciating the problem being solved by the present invention or the solution being claimed.

Indeed, as to the second point noted above, the Examiner acknowledges that Burghardi does not teach the analyzer device [being controlled] to repeatedly measure the amount of the constituent of the solid feed at least once a day.

There would be no reason for Burghardi to control an analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, because Burgharidi relies on standard nutritional values for available feed ingredients.

Since Burghardi does not teach the features for which the Examiner has offered Burghardi, the rejection is improper.

Further, Pratt does not cure these defects.

In regard to Pratt, as similarly discussed above regarding Burghardi, Pratt also fails to disclose, or suggest, “an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals,” as recited.

The system of Pratt determines a feed based upon data relating to information such as animal characteristics, e.g., weight, external dimensions, internal fat or other tissue characteristics of the animal, and does not disclose the recited analyzer device.

The Examiner asserts that Pratt discloses the alleged missing features of the control device “configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day, and configured to control the feeding device to feed said animals repeatedly and at each instance based on the

previous said repeatedly performed measurements [0131][0138][0153][0023]."

Appellant respectfully disagrees.

Specifically, the control device in Pratt is not designed to measure "the amount of the constituent of the solid feed at least once a day," as recited.

Instead, Pratt discloses, upon arrival of a lot of cattle in the feedlot, each animal in the load is measured, processed and electronically identified with an EID tag, and initially sorted into the sorting pens by type (breed), weight, age, or a first estimated optimum end date (OED) or days to finish (DTF) [0128]. From the sorting pens, the animals are moved to feed pens, either by sort or on an ad hoc basis, where they are fed for a period of time, such as 45 days or longer. After the 45th day, for example, if the weight or measurement is achieved, the animals would be moved from their feed pens and back through the single-file chute, where the animals would be re-measured. From this measurement and re-measurement data, the performance of each animal would be calculated by the computer, and its performance assessed [0130]. Pratt concerns determining feed proration for each animal, taking into account optimum marketing or shipping date of each animal.

Pratt, however, does not disclose actually analyzing the feed that will be fed to the cattle. Pratt does not disclose an analyzer device for at least daily real-time

measuring the amount of the constituent of the solid feed, or of any analyzer device for measuring in real time an amount of at least one constituent of solid feed to be fed to specific animals.

The Examiner has misread Pratt. The Examiner's assertion that paragraph [0153] of Pratt teaches "measuring the amount of the constituent of the solid feed" is improper. Although paragraph [0153] mentions calculating the "dry matter intake" (DMI) for a given feed period, it is respectfully submitted that the dry matter intake is the total weight of the feed and, not the amount of the constituent of the solid feed.

In fact, paragraph [0153], lines 10-12, states that "[a]s indicated in the formula, the frame score is determined by a formula using both hip height and current weight." This reiterates that the measurement is based further on the animal's characteristics.

Thus, the Examiner is incorrect. Pratt fails to disclose the control device configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day.

Claim 26 further recites the control device configured to control the feeding device to feed said animals [of the farm] repeatedly and at each instance based on the previous said repeatedly performed measurements.

In the paragraph spanning pages 2-3 of the Official Action, the Examiner acknowledges that Burghardi does not teach this feature.

The Examiner asserts that Pratt discloses the alleged missing features of the control device "configured to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements [0131][0138][0153][0023]."

Appellant disagrees.

The phrase "said repeatedly performed measurements" means the measurements of the analyzer device measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals, wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content.

Appellant respectfully points out that Pratt does not disclose actually analyzing the feed that will be fed to the cattle; does not disclose daily real-time measuring the amount of the constituent of the solid feed; and does not disclose measuring in real time an amount of at least one constituent of solid feed to be fed to animals of a specific farm. Accordingly, it follows that Pratt cannot disclose a control device configured to control the feeding device to feed said animals repeatedly and at each instance based such repeatedly performed measurements.

In conclusion, since the rejection fails to show that the applied references disclose or suggest each and every element of the rejected claims, Appellant respectfully submits that no *prima facie* case of obviousness has been established with respect to claim 26, and that the rejection is therefore improper. The rejection of the claims depending from claim 26 is also improper.

<u>Claim 37</u>

As with claim 2, this claim recites that the control device is configured to control said analyzer device to measure the amount of said constitute of said solid feed immediately prior to the feeding of said animals.

The Examiner asserts that Burghardi paragraphs [0018], [0020], [0021], [0024], [0025], and [0032]-[0036] satisfy this feature.

Appellant respectfully disagrees.

These passages concern creating a customized feed involving the processing and manipulating of data relating to the characteristics of the animals. Appellant respectfully asserts that there is no description or discussion of measuring the amount of constituent of the feed immediately prior to feeding the animals.

Claims 3 and 38

These claims recite that the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed a plurality of times per day.

The Examiner asserts that the Pratt reference teaches this feature.

Appellant respectfully disagrees.

The Examiner has not identified where Pratt makes this disclosure and Appellant cannot find any such disclosure.

Claim 6

Claim 6 recites that the control device is configured to control said analyzer device to measure the amounts of a plurality of constituents of said solid feed, and configured to control said feeding device to feed said animals depending on the measurements of the amounts of the constituents of said solid feed.

The Examiner relies on Burghardi paragraph [0038].

However, Appellant respectfully submits that this passage does not disclose an analyzer device configured to measure the amounts of a plurality of constituents of said solid feed, and configured to control said feeding device to feed said animals depending on the measurements of the amounts of the constituents of said solid feed.

<u>Claim 7</u>

Claim 7 recites that the control device is configured to control said feeding device to perform said feeding depending on an average value of said repeatedly measured amounts of said constituent.

The Examiner relies on Burghardi paragraph [0032}.

This paragraph discloses using two criteria, but does not disclose using “an average value of <u>said repeatedly measured amounts of said constituent</u>.”

<u>Claims 10, 11, 13</u>

Claim 10, in part recites, to calculate an amount of solid feed to be fed to said animals <u>*based on the performed measurements*</u> and said updated information included in said database; and to indicate to said feeding device said calculated amount of solid feed to be fed to said animals.

Claim 11 recites the control device is configured to control said feeding device to feed said animals with mixed solid feed having a balanced composition <u>*depending on the performed measurements*</u>.

Claim 13 recites wherein said animals are grouped in different groups, such that the control device is configured to control said feed device to feed different groups of animals with total mixed rations (TMR) of solid feed independently and <u>*in accordance with the performed measurements*</u>.

The phrase "performed measurements" means the measurements of the "analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals", "wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content".

Appellant does not find that Burghardi teaches these features insofar as Burghardi, properly modified, does not teach the "performed measurements" of the feed to be fed to the animals on the farm, or to direct a feeding device based on "performed measurements" of the feed being fed to the farm's animals.

Accordingly, the claimed features cannot be taught.

<u>Claim 14</u>

Claim 14 recites said animals being grouped in different groups depending on body condition and, provided that the animals are milking animals, depending on milk production, days in lactation, or number of lactations.

The Examiner relies on Pratt for this feature.

Although Pratt does disclose grouping animals, Pratt does not disclose grouping of milking animals depending on milk production, days in lactation, or number of lactations. Therefore, this feature is not taught.

Claim 23

Claim 23 recites that the control device is configured to control said analyzer device to measure the amount of the constituent of the solid feed repeatedly and at least once a day automatically.

The Examiner relies on Pratt paragraphs [0131], [0138], [0153], and [0023].

Appellant respectfully submits that Pratt does not disclose this feature.

Claim 24

Claim 24 recites that the control device is configured to control the feeding device to feed the animals repeatedly and at each instance depending on the last one of the repeatedly performed measurements automatically.

The Examiner relies on Pratt paragraphs [0131], [0138], [0153], and [0023].

Appellant respectfully submits that Pratt does not disclose this feature.

Claim 27

This claim recites that an analyzer control device to control the analyzer device to measure the amount of the

constituent of the solid feed repeatedly and at least once a day; and a feed control device for controlling the feed device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements.

The rejection states that "the limitations have been explained in the above, thus, please see above."

Appellant respectfully submits that the two applied references do not disclose these features.

Claims 28 and 39

These claims recite that the control device is configured to control the analyzer device to measure the amount of the constituent of the solid feed at least three times per day.

The Examiner argues that this is just "routine experimentation" to discover the optimum/workable range until the desired effect is achieved (citing to *In re Aller*) but fails to relate the *In re Aller* principle to the facts of this claim. The rejection does not show that the general conditions of the claimed feature are disclose in the prior art. The Examiner does not identify what is being optimized. *In re Aller* applies to optimizing a known result-effective variable. The rejection does not identify what is being optimized, why there is optimization, or what

would be an optimum result. Accordingly, the rejection fails.

Claims 29, 30, 40, and 48

Claims 29, 40, and 48 recite that the analyzer device measures the amount of at least one constituent of solid feed to be feed to the animals at different locations in a feed supply device.

The Examiner relies on paragraphs [0020], [0030], [0037], and [0041] of Burghardi. However, Appellant respectfully submits that these passages do not disclose the claimed feature.

Claims 34 and 43

Claims 34 and 43 recite that the analyzer device measures all of the constituents (a protein content, a fiber content, and a neutral detergent fiber (NDF) content) of the solid feed to provide more accurate ration balancing and maximized production.

The Examiner relies on paragraphs [0020], [0021], [0025], [0032]-[0036], and [0038] of Burghardi.

Appellant respectfully submits that the cited paragraphs do not disclose these features.

Claim 50

Claim 50 recites that different groups of animals are fed with total mixed rations of feed, independently, and at each instance, depending on the measured amount of the at least one constituent of solid feed.

The Examiner asserts that Burghardi, modified by Pratt, would satisfy this feature.

Appellant respectfully disagrees. The Examiner has not shown that the references teach this feature. Therefore, the rejection is improper.

Second Ground Of Rejection On Appeal

The second ground of rejection under appeal is whether claims 4, 8, 9, 12, 15, 16, 35, 36, and 44-47 under 35 U.S.C. §103(a) are obvious over Burghardi in view of Pratt and further in view of Beck.

Beck discloses ensiled feed [0003] and use of near infrared reflectance spectroscopy (NIRS) [0008], [0039] for analyzing feed.

Beck does not otherwise cure the defects of Burghardi and Pratt. Beck does not suggest to use NIRS in the manner recited by the independent claims.

Therefore, Applicant respectfully asserts claims 4, 8, 9, 12, 15, 16, 35, 36, and 44-47 are patentable over the combination of Burghardi and Pratt, and Beck for its own merits, as well as by virtue of their dependency on independent claim 1 or 26.

Third Ground Of Rejection On Appeal

The third ground of rejection under appeal is whether claims 18, 19, 31-33, 41, and 42 under 35 U.S.C. §103(a) are obvious over Burghardi in view of Pratt and further in view of Birk.

Birk discloses a feeding system comprising a feed wagon 38 capable of dropping feed into a feeding table, manger, or similar 39, while moving along the feeding table to distribute the feed well on the feeding table 39.

Birk does not otherwise cure the defects of Burghardi and Pratt.

Claims 18, 31, 32, and 41

These claims recite said feeding device is a vehicle filled with said solid feed, and said analyzer device is provided at said vehicle for measuring the amount of said constituent of said solid feed.

The applied references do not teach said analyzer device, as recited, provided at said vehicle for measuring the amount of said constituent of said solid feed.

Appellant respectfully urges that claims 18, 19, 31-33, 41, and 42 are patentable over the combination of Burghardi and Pratt, and Birk for its own merits, as well as by virtue of their dependency on independent claim 1 or 26.

Fourth Ground Of Rejection On Appeal

The fourth ground of rejection under appeal is whether claim 22 under 35 U.S.C. §103(a) is obvious over Burghardi in view of Pratt and further in view of Cheung.

Cheung relates to biological compositions that can reduce the production of odorous waste products by animals, which biological compositions can be added to animal feed to reduce the odor of waste products prior to the shedding of the waste products by the animal [0012].

Claim 22 is non-obvious at least for depending from a non-obvious claim.

Fifth Ground Of Rejection On Appeal

The fifth ground of rejection under appeal is whether claim 49 under 35 U.S.C. §103(a) is obvious over Burghardi in view of Pratt and further in view of Cureton.

Claim 49 recites an optical device with image processing capabilities for measuring the actual feed consumption in connection with each of the feedings.

Cureton discloses camera system 99 mounted on a remotely-controlled feed delivery vehicle, allowing a remote operator to interact with a VR model of the remotely controlled feedlot vehicle (FIGS. 2B2, 2C1, 2D1 and 2E1).

It does not appear, however, that the camera system 99 has "capabilities for measuring the actual feed consumption in connection with each of the feedings".

Rather, Cureton discloses a uniform feed dispensing subsystem aboard the feed delivery vehicle with a scale 107 to measure the actual amount of feed loaded onto an assigned feed delivery vehicle, where by measuring the weight of the feed within storage compartment 108 and recording these measurements in memory of the on-board computer system, the computer system computes the actual amount of feed ration either (i) supplied to the feed load storage compartment during the feed loading process at the feedmill, or (ii) dispensed therefrom into the feedbunk of any pen in the feedlot.

Accordingly Cureton does not disclose the recited feature of claim 49.

Claim 49 is therefore patentable over the combination of Burghardi and Pratt, and Cureton for its own merits, as well as by virtue of its dependency on independent claim 1.

CONCLUSION

In light of the foregoing arguments, Appellant respectfully requests the Board to reverse the Examiner’s rejection of claims 1-4, 6-24, and 26-54.

The Appeal Brief fee of $620 is being paid concurrently herewith, online by credit card.

Respectfully submitted,

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VIII. CLAIM APPENDIX

1. A feeding system for feeding animals on a farm, comprising:

an analyzer device for measuring in real time or near real time an amount of at least one constituent of solid feed to be fed to said animals;

a feeding device for feeding said animals; and

a control device,

wherein the control device is configured to control the analyzer device to repeatedly measure the amount of the constituent of the solid feed at least once a day,

wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content, and

configured to control the feeding device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements.

2. The system of claim 1, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed immediately prior to the feeding of said animals.

3. The system of claim 1, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed a plurality of times per day.

4. The system of claim 1, wherein said solid feed is ensiled feed.

5. (Canceled)

6. The system of claim 1, wherein the control device is configured to control said analyzer device to measure the amounts of a plurality of constituents of said solid feed, and configured to control said feeding device to feed said animals depending on the measurements of the amounts of the constituents of said solid feed.

7. The system of claim 1, wherein the control device is configured to control said feeding device to perform said feeding depending on an average value of said repeatedly measured amounts of said constituent.

8. The system of claim 1, wherein said analyzer device is a spectroscopic device for quantitative chemical analysis.

9. The system of claim 1, wherein said analyzer device is a near infrared (NIR) instrument.

10. The system of claim 1, wherein the control device is a computer-based processing and control device provided for managing of said animals including controlling of the feeding of said animals, wherein

said computer-based processing and control device includes:

a database including updated information regarding feed consumption by said animals;

is connected to receive said respective measured amounts of said constituent of said solid feed;

is provided to calculate an amount of solid feed to be fed to said animals based on the performed measurements and said updated information included in said database; and

is connected to indicate to said feeding device said calculated amount of solid feed to be fed to said animals.

11. The system of claim 1, wherein the control device is configured to control said feeding device to feed said animals with mixed solid feed having a balanced composition depending on the performed measurements.

12. The system of claim 1, wherein the control device is configured to control said feeding device to feed said animals with solid feed having ensilage and concentrate and/or additives depending on the performed measurements.

13. The system of claim 1, wherein said animals are grouped in different groups, such that the control device is configured to control said feed device to feed different groups of animals with total mixed rations (TMR) of solid feed independently and in accordance with the performed measurements.

14. The system of claim 13, wherein said animals are grouped in different groups depending on body condition and, provided that the animals are milking animals, depending on milk production, days in lactation, or number of lactations.

15. The system of claim 1, wherein said animals have a supply of partial mixed rations (PMR) of solid feed, including ensilage and concentrate, such that the control device is configured to control said feed device to feed each of said animals with additional concentrate feed individually and in accordance on the performed measurements.

16. The system of claim 1, wherein said animals are grouped in different groups, such that the control device is configured to control said feed device to (i) feed different groups of animals with roughage or ensilage depending on the performed measurements, and (ii) feed said animals with concentrate or additives individually and in accordance on the performed measurements.

17. The system of claim 1, wherein the control device is configured to control said feed device to feed different individuals of said animals with solid feed individually depending on the performed measurements.

18. The system of claim 1, wherein said feeding device is a vehicle filled with said solid feed, and said analyzer device is provided at said vehicle for measuring the amount of said constituent of said solid feed.

19. The system of claim 1, wherein said feeding device is an in-door feed wagon mounted on a rail in a ceiling, for automatic feeding.

20. The system of claim 1, further comprising a weighing machine or an optical device with image processing capabilities, provided for establishing in connection with said feeding, the actual feed consumption by said animals,

wherein the control device is configured to control said feeding device to feed said animals depending on the established actual feed consumption by said animals.

21. The system of claim 1, wherein said animals are milking animals, further comprising a device provided for measuring a quality or a quantity of milk from said milking animals, and the control device is configured to control said feeding device to feed said milking animals depending on the measured quality or quantity of milk from said milking animals.

22. The system of claim 1, further comprising a device for measuring a quality of manure from said animals, wherein the control device is configured to control said feeding device to feed said animals depending on the measured quality of manure from said animals.

23. The system of claim 1, wherein the control device is configured to control said analyzer device to measure the amount of the constituent of the solid feed repeatedly and at least once a day automatically.

24. The system of claim 1, wherein the control device is configured to control said feeding device to feed said animals repeatedly and at each instance depending on the

last one of said repeatedly performed measurements automatically.

25. (Withdrawn)

26. Use of a feeding system comprising an analyzer device and a feeding device for feeding animals, said analyzer device, performed by a control device, for measuring in real time or near real time, repeatedly, and at least once a day the amount of at least one constituent of solid feed to be fed to said animals, and said feeding device, performed by the control device, being used for feeding said animals repeatedly and at each instance based on the previous said repeatedly performed measurements,

wherein the amount of said constituent includes any one of a protein content, a fiber content, and a neutral detergent fiber (NDF) content.

27. The system of claim 1, wherein the control device comprises:

an analyzer control device to control the analyzer device to measure the amount of the constituent of the solid feed repeatedly and at least once a day; and

a feed control device for controlling the feed device to feed said animals repeatedly and at each instance based on the previous said repeatedly performed measurements.

28. The system of claim 1, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed at least three times per day.

29. The system of claim 1, wherein the analyzer device measures the amount of at least one constituent of solid feed to be feed to said animals at different locations in a feed supply device.

30. The system of claim 2, wherein the analyzer device measures the amount of at least one constituent of solid feed to be feed to said animals at different locations in a feed supply device.

31. The system of claim 30, wherein said feeding device is a vehicle filled with said solid feed, and said analyzer device is provided at said vehicle for measuring the amount of said constituent of said solid feed.

32. The system of claim 2, wherein said feeding device is a vehicle filled with said solid feed, and said analyzer device is provided at said vehicle for measuring the amount of said constituent of said solid feed.

33. The system of claim 32, wherein said vehicle is an in-door feed wagon mounted on a rail in a ceiling, for automatic feeding.

34. The system of claim 1, wherein the analyzer device measures all of the constituents of the solid feed to provide more accurate ration balancing and maximized production.

35. The system of claim 1, wherein the analyzer device is a spectroscopic device which measures quantitative chemical analysis.

36. The system of claim 35, wherein the spectroscopic device is a near infrared (NIR) instrument based on near infrared reflectance spectroscopy technique.

37. The use of claim 26, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed immediately prior to the feeding of said animals.

38. The use of claim 26, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed a plurality of times per day.

39. The use of claim 38, wherein the control device is configured to control said analyzer device to measure the amount of said constituent of said solid feed at least three times per day.

40. The use of claim 26, wherein the analyzer device measures the amount of at least one constituent of solid feed to be feed to said animals at different locations in a feed supply device.

41. The use of claim 26, wherein said feeding device is a vehicle filled with said solid feed, and said analyzer device is provided at said vehicle for measuring the amount of said constituent of said solid feed.

42. The use of claim 41, wherein said vehicle is an in-door feed wagon mounted on a rail in a ceiling, for automatic feeding.

43. The use of claim 26, wherein the analyzer device measures all of the constituents of the solid feed to provide more accurate ration balancing and maximized production.

44. The use of claim 26, wherein the analyzer device is a spectroscopic device which measures quantitative chemical analysis.

45. The use of claim 44, wherein the spectroscopic device is a near infrared (NIR) instrument based on near infrared reflectance spectroscopy technique.

46. The system of claim 1, wherein the analyzer device further samples individual ingredients of a food mixture which make up the solid feed, wherein the sampling of the individual ingredients of the food mixture is performed before the individual ingredients are mixed together.

47. The system of claim 46, wherein the mixing is performed based on a result of a measurement of the samples.

48. The system of claim 1, wherein the analyzer device measures the amount of the at least one constituent of the solid feed to be fed to said animals at different locations within a storage device.

49. The system of claim 1, further comprising an optical device with image processing capabilities for measuring the actual feed consumption in connection with each of the feedings.

50. The system of claim 1, wherein different groups of animals are fed with total mixed rations of feed, independently, and at each instance, depending on the measured amount of the at least one constituent of solid feed.

51. The system of claim 1, wherein the measured constituent include any one of vitamins, minerals, moisture, fat, starch, TKN, crude fiber, acid detergent fiber (ADF), and lignin.

52. The feeding system of claim 1, wherein at least the animals, the analyzer device, and the feeding device are colocated.

53. The feeding system of claim 1, wherein at least the animals, the analyzer device, and the feeding device are in situ.

54. The feeding system of claim 2, wherein the amount of the at least one constituent of the solid feed is measured and the animals are fed in real time in situ.

IX. EVIDENCE APPENDIX

NONE

X. RELATED PROCEEDINGS APPENDIX

NONE